

MULTIMEDIA



UNIVERSITY

STUDENT IDENTIFICATION NO

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# MULTIMEDIA UNIVERSITY

## FINAL EXAMINATION

TRIMESTER 1, 2015/2016

**BKC3034 – BUSINESS SYSTEMS ANALYSIS AND DESIGN**  
(All Sections / Groups)

13 OCTOBER 2015  
2:30 p.m. – 4:30 p.m.  
(2 Hours)

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### INSTRUCTION TO STUDENTS

1. This paper consists of 5 pages with **TWO** sections only.
2. Answer **ALL** questions in Section A, and **THREE (3)** out of FOUR questions in Section B. The distribution of the marks for each question is given.
3. Please write all your answers in the answer script provided.

## **SECTION A: CASE STUDY**

### **Answer ALL questions.**

#### **Mountain Vista Motorcycles**

Amanda Lamy, president and majority stockholder of Mountain Vista Motorcycles (MVM), is an avid motorcycle enthusiast and businesswoman. MVM is headquartered in Denver and has locations throughout the western United States and Canada. Since the late-1990s, the market for motorcycles has grown tremendously. Amanda expects that the market will continue to be strong throughout the 2010s, although she is concerned about the “graying” of a significant portion of MVM’s customer base.

The demographics of the motorcycle market are an interesting study in contrasts. At present, the majority of customers are over 50 years of age, male professionals or businesspeople, and partly or fully retired. They have substantial disposable income, lots of free time, and tend to own multiple expensive motorcycles from such manufacturers as Harley-Davidson, Honda, Ducati, and Moto Guzi. Older customers are generally comfortable with Internet and Web technology but are not significant users of social media technology. Although many own smartphones, they tend to use them primarily for voice, e-mail, and texting.

Amanda is convinced that the key to long-term success in the motorcycle market is to build an active community of motorcycle enthusiasts at each MVM location that includes a broad spectrum of customers. In essence, each location needs to be seen as a hub of local motorcycle-related activity and information in physical and virtual terms. On the physical side, MVM has added activity and event-oriented pages to its Web sites, sponsored rallies and clubs, added meeting rooms and small coffee shops in some locations, and colocated with bars and restaurants that feature motorcycle-related themes and entertainment. These efforts have yielded good results with older customers but less so with younger customers.

Amanda is concerned about the lack of participation by younger customers and is sure that MVM’s lack of presence in social media and virtual relationships is a significant factor. She and her senior staff, most of whom are older, are unsure how to attract younger customers. They have little knowledge of and no experience creating modern technology-based virtual communities.

MVM’s chief information officer is starting to develop a project plan for a virtual community oriented toward younger customers. Few of the intended virtual community users are MVM employees, and none of her staff members fully comprehends how to successfully use social media and other techniques for building virtual societies. Traditional methods of defining and refining system requirements seem inadequate to the task.

**Source:** From J. Satzinger, R. Jackson, & S. Burd, *Systems Analysis & Design in a Changing World*, 6<sup>th</sup> ed., 2012.

**Continued...**

**QUESTION 1**

- a. Assume that the project plan for the virtual community is at the third core process (discover and understand details) of the system development lifecycle (SDLC) phase. Briefly describe all the system analysis activities that MVM has to perform. (10 marks)
- b. What are the **TWO (2)** categories of system requirements that the virtual community team has to define? (4 marks)
- c. Information needs to be gathered from both employees and customers before the virtual community can be developed and implemented. Provide **TWO (2)** suitable information gathering techniques for MVM and justify your choice. (8 marks)
- d. As mentioned in the case, MVM web sites have good results with older customers, but less so with younger customers. Describe **ONE (1)** type of web software component that can be added to the web sites to attract the younger customers to the sites. (3 marks)

(Total: 25 marks)

**Continued...**

**SECTION B: ESSAYS**

**Answer THREE (3) out of FOUR questions.**

**QUESTION 2**

- a. Define “iterative development”. Provide **THREE (3)** benefits to iterative development.  
(8 marks)
- b. Describe the **TWO (2)** general approaches to the SDLC. Your description should include the definition, a brief description, and an example for each approach.  
(8 marks)
- c. Develop an **activity diagram** based on the following narrative:

In Garcia’s Restaurant, the Chief Chef and the Sous Chef work together to make the La Bam Ba dish. The preparation of the dish begins with the Sous Chef cleaning the fish for himself and the Chief Chef. One portion of the fish is then given to the Chief Chef. The Sous Chef then makes a batter for his fish before coating and deep-frying the fish. At the same time, the Chief Chef checks the freshness of the fish given by the Sous Chef. If the fish is fresh, he lightly marinates the fish, else he will apply a heavier marinate on the fish. The marinated fish is then grilled. At the Sous Chef side, he prepares the garnishing for the La Bam Ba dish and passes these garnishing to the Chief Chef. The Chief Chef then does the final plating.

(9 marks)

(Total: 25 marks)

**QUESTION 3**

- a. What is the objective of the *quantify project approval factors* activity in the first core process of the SDLC phase? What are the **THREE (3)** criteria to obtain project approval?  
(7 marks)
- b. List and briefly describe **THREE (3)** of the eight important User-Interface Design Concepts for the overall design of the user interface.  
(9 marks)

**Continued...**

- c. Describe **THREE (3)** implementation alternatives that an organization can choose to implement their system.

(9 marks)

(Total: 25 marks)

#### **QUESTION 4**

- a. Read the narrative below:

The Paws & Claws Humane Society is open from 7 a.m. to 7 p.m., seven days a week. They maintain a computerized inventory of animals available for adoption, which includes animal type, breed, gender, approximate age, date placed at the shelter, notes and date adopted. People interested in adopting animals can visit the Society at any time; they complete an application, which is reviewed by the Society staff. The application form is filed in the adopter's personal file. A staff member discusses the potential adopters' wants and needs for a pet based on the review and availability of the pets from the pets file. A summary of the customer's pet's characteristics preference is then recorded in the application form. The staff then takes the potential adopters to see appropriate animals. The potential adopter can see and interact with up to five animals in a single visit. Based on the preferred pet characteristics, if the customer chooses an animal, the staff member fills out adoption paperwork before the customer takes the pet home. The paperwork is then updated in the adopter's personal file and also the pets file. A copy of the paperwork is given to the adopter.

- (i) Develop a logical context data flow diagram (DFD) for the above system.

(3 marks)

- (ii) Develop a logical level-0 for the above system. Ensure that it is consistent with the context diagram developed in part (i).

(10 marks)

- b. Describe **TWO (2)** advantages and **TWO (2)** potential problems of implementing an application through the Web.

(12 marks)

(Total: 25 marks)

**Continued...**

**QUESTION 5**

- a. The narrative given below is for the explosion of *Determine weight status* module. Using the narrative given, draw a *first-draft structure chart* using the *transform analysis method*.

Mel is doing a study on various weight-loss plans and needs to determine an individual's weight status by calculating his body mass index (BMI). To calculate a person's BMI, height must be measured in meters and weight measured in kilograms. The index is calculated by dividing a person's weight by the square of his height. The result is then compared to the following scale to determine the person's weight status: below 18.5 = underweight; 18.5 -24.5 = normal weight; over 25.0 = overweight. The system is then to produce a report containing the person's height, weight, and weight status.

(10 marks)

- b. List and briefly describe **THREE (3)** ways to deploy a new system.

(9 marks)

- c. List and briefly describe at least **THREE (3)** of the six criteria required (by OSI) for open source software to be licensed as such.

(6 marks)

(Total: 25 marks)

**End of paper**